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Título: Identifying and extracting HII regions from nearby galaxies with J-PLUS

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Resumen:

The Javalambre Photometric Local Universe Survey (J-PLUS) has already started the data acquisition phase at the Observatorio Astrofísico de Javalambre (OAJ) in Teruel, Spain. Benefiting from the large field of view (2 deg^2) and the special set of 12 filters of the T80Cam at the T80 telescope, we aim to fully characterize the properties of HII regions in nearby galaxies. The first step involves the procedure to identify and extract these HII regions, which is presented in this poster. The detection image showing the excess of $\text{H}\alpha + [\text{NII}]$ is constructed using a combination of the images in three filters (two SDSS broadband filters, r and i; and a narrow-band one centered in the $\text{H}\alpha + [\text{NII}]$ rest-frame wavelength) following the prescriptions of Vilella-Rojo et al. (2015). We demonstrate the power of this method by comparing some of our images to those of other integral field spectrographs, remarking not only the HII regions but other special features such as absorption by old stellar populations. The entire procedure is included in a fully automatized pipeline that homogenizes the PSF, and identifies and extracts the HII regions from all the galaxies in the J-PLUS area, generating catalogs of these regions up to redshift $z \sim 0.015$. After this first step, we will get spectral energy distributions using the 12 available filters. With them, we will study the impact of environment in the star formation properties of nearby galaxies, taking advantage of the unprecedented field of view that T80Cam offers.